CLAIMS

What is Claimed is:

- A method for fabricating a semiconductor device, comprising the steps of: forming a thin film made of an inorganic material;
- forming a resist film containing carbon on the thin film and thereafter patterning the formed resist film to form a resist pattern from the resist film;

exposing the resist pattern to a gas containing sulfur; and

performing dry etching of the thin film using as a mask the resist pattern exposed to
the gas containing sulfur.

- The method for fabricating a semiconductor device of Claim 1, wherein the inorganic material contains silicon, and an etching gas employed for the dry etching is a fluorocarbon gas.
 - 3. The method for fabricating a semiconductor device of Claim 1, wherein the gas containing sulfur is sulfur dioxide.
- 15 4. The method for fabricating a semiconductor device of Claim 1, wherein the gas containing sulfur is in a plasma state.
 - 5. The method for fabricating a semiconductor device of Claim 1, wherein the step of exposing the resist pattern to the gas containing sulfur and the step of performing dry etching constitute the same step.
- 20 6. The method for fabricating a semiconductor device of Claim 1, wherein the line width of the resist pattern is 200nm or less.
 - 7. The method for fabricating a semiconductor device of Claim 1, wherein the value of the ratio of the height of the resist pattern to the line width thereof is 2.8 or more.

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